

Edvard. Gjert

"GÖRANSSONS MEKANISKA VERKSTAD"
COMPANY LIMITED

AT THE EXHIBITION OF STOCKHOLM 1897

SOME INFORMATION

RESPECTING

DR. G. ZANDER'S MEDICO-MECHANICAL
GYMNASTIC METHOD

STOCKHOLM 1897

P. A. NORSTEDT & SÖNER, PRINTERS TO THE KING



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At the Exhibition of Stockholm held this year, the »GÖRANSSONS MEKANISKA VERKSTAD» COMPANY LIMITED, as sole manufacturers of the **medico-mechanical gymnastic apparatus** on the system of Dr. ZANDER, exhibits a number of such appliances. These apparatus have been arranged so as to form a smaller »*Medico-Mechanical Zander-Institute*» and requisite measures have been taken to offer gymnastic treatment, under medical direction, to visitors desiring it. For that reason the Company takes the liberty of giving some information concerning the said system and its use.





GUSTAF ZANDER M. D., creator of the Medico-Mechanical Gymnastics, was born in Stockholm on the 29th of March 1835. As early as 1857 he commenced to work out his method of treatment for this new kind of medical gymnastics. For various reasons he called this method »*medico-mechanical*», and the public establishment he founded in Stockholm in 1865 for the employment of his system was named »*the Medico-Mechanical Institute*». During the time that has since elapsed, and while he has been working uninterruptedly for the development and perfection of the method, many such Institutes have been erected with his cooperation and all named after his own establishment — »*Medico-Mechanical Institutes*», — though in order to be more clearly distinguished from other gymnastic establishments, they are now generally named »*Medico-Me-*

chanical Zander Institutes». These are all furnished with gymnastic apparatus manufactured by the »GÖRANSSONS MEKANISKA VERKSTAD» COMPANY LIMITED in Stockholm, under Dr. ZANDER'S control and in accordance with his constructions.

The Zander method has for its object to effect by means of *mechanical apparatus* a general exercise of the muscles of the human body in a perfectly scientific manner, exactly adapted to different requirements, and also to produce certain mechanical operations on the whole of the body or parts of it.

Of the various kinds of movements here alluded to, the *active* arm- leg- and trunk-movements take the first place, as being especially intended for muscular exercises — the essence of all gymnastics. The resistance to be overcome in these kinds of movements is represented in the Zander method by a movable weight attached to a graduated lever, by which arrangement the resistance can easily be adjusted so as to fulfil the very requirements which are considered suitable in the treatment of each case. Therefore, the movements can be strictly individualized. — In this fact, and in the use of a special apparatus for exercising each separate group of muscles, lies the characteristic of the Zander method, and thereon depends its great importance in special treatment (training) of the particular groups of muscles on which a definite effect is to be produced.

The regular and gradual muscular exercises thus attained, and which are strictly adjusted to the strength of the patient, do not only strengthen and develop the muscles themselves but also further the removal of morbid changes in their tissues, invigorate the nervous system, promote the circulation of the blood and lymph and facilitate the functions of many internal organs.

Besides the apparatus for *active* movements, there are also used in this system, though to a smaller degree, apparatus for *passive* movements, i. e. such as move the members of the body without the help of the muscles, stretching and softening their capsules of articulations, tendons, ligaments and muscles. There are, moreover, apparatus for so called *mechanical operations*, such as *vibration*, *percussion*, *kneading*, *rolling* and *friction*. — In addition to these apparatus, the system also possesses others, specially adapted to the treatment of *abnormal curvatures of the spine* (scoliosis).

To obtain reliable information in the treatment of particular cases (especially curvatures of the spine) and to be enabled to positively indicate the effects of the treatment, Dr. ZANDER has also constructed some measuring apparatus and particularly a *trunk measuring apparatus* by which the outline of the body and the size, state, and position of the curvatures of the spine can be measured, and figures easily obtained for a graphic reproduction of any external deformity of the body.

Thus organized, the Zander gymnastics has won an extensive employment in the service of medicine and hygiene, and its importance in the following respects deserves particularly to be kept in view.

As *developing gymnastics* this method is of great value, especially for those boys and girls who cannot take part in the common school gymnastics by reason of general weakness. For this weakness, which is too often accompanied by a stooping carriage and not seldom also by a curvature of the spine, individualized resistance-movements have proved the best remedy. These movements must, however, be used to such an extent as to gradually bring the whole muscular system in its activity in order to restore the disturbed equilibrium of the organs, to turn the development into its natural course and thus to successfully struggle against over-excitement of the nerves which is the result of modern forced school education with its great demands. If, by the treatment, the strengthening of the muscles and of the whole constitution of weak children has been effected, these children can gradually attain to the same vigour as their naturally more fortunate companions who are either more strongly built or born of more vigorous parents.

As a *dietetic* remedy, the Zander gymnastic method gains ground every year amongst people of all ages, especially with the very great number of persons who lead a sedentary life or whose occupations only require the one-sided employment of the muscles,

such as officers, teachers, merchants etc. and many women. As long as they are young and healthy, many of these can certainly keep part of their muscles in a sound and vigorous state by means of sport-exercises, but as they grow older they feel the inconvenience of such exercises, and then the Zander gymnastics offers an excellent means of maintaining their vigour and enables them to successfully struggle against the debility and infirmities usually attending increasing age.

The Zander method has, however, its most important mission in the purely *therapeutic domains*, for there it has proved a recognized curative, ranking with the other therapeutic methods of which science has already availed itself. It is true that the medical gymnastics has not as yet been generally studied at the Universities, but probably it will not be long before gymnastics is duly appreciated and classed among the other studies of Medical Faculties on account of its great services to medical science.

For persons suffering from *heart-diseases* this gymnastics remains a permanent necessity at least for the winter season, and every patient of the kind who is deprived of the opportunity to profit by it, is much to be pitied. It is very surprising to note the beneficial influence that *regular, slight* but manifold muscular exercises have on diseases of the heart. Some of these, when not too far advanced, can be perfectly cured, others checked in their development, and all modified in their symptoms.

Nervous patients find relief in their complaints by means of the mechanical gymnastic treatment; such is most generally the case with the group of patients called *neurasthenics*. However, it is necessary for these to continue the treatment for some time and not to allow the lack of perseverance, which is peculiar to them, to assert its influence. In the treatment of *neuralgia* wonderful cures are sometimes produced.

Persons affected with *pulmonary diseases* learn to breathe more deeply; in pulmonary emphysema e. g. the gymnastics produces a more complete renewal of air in the affected parts of the lungs by forced expiration.

Patients suffering from *stomachic diseases* are often thoroughly cured or at least find relief by medico-mechanical gymnastics. *Gastric* and *intestinal catarrh*, nervous *dyspepsia* and *habitual constipation* are complaints of common occurrence, in which the gymnastics, alone or supported by mineral water-cures and medicine, is used with great success.

In certain forms of the *diseases of the female genital organs* the Zander method works hand in hand with massage, which is hardly able alone to produce a real and lasting cure.

In the treatment of *hæmorrhoidal troubles* the gymnastic movements which promote the circulation of the blood and divert the humours, prove very valuable.

But even the sufferings which affect the *constitution in general* can be overcome or modified by this method, which would triumph over them still more frequently but for the want of perseverance on the part of the patients. In cases of *anæmia* with its various symptoms as well as in *corpulence* and *obesity* many successful cures might be recorded.

For *rheumatism of the articulations and muscles* no better remedy is known in Sweden, after long experience, than treatment by friction, kneading, percussion — in a word: massage, supplemented by suitable baths or by medical treatment. As soon as the joints, the tendons or the muscles regain suppleness, the systematical resistance-movements are the surest means of restoring the normal functions of the affected parts.

The effects of the Zander gymnastics are very remarkable in the treatment of *lateral curvatures of the spine* (scoliosis). This treatment the efficiency of which has been clearly shown by means of the exact measurings used in it, has also in most cases, according to the experience of Dr. ZANDER, proved the needlessness of bandages. These are generally used at the orthopedic institutes, especially abroad, either exclusively or as a cooperative in the treatment of scolioses, for they are supposed to have the capacity of actually correcting the curvature, or of contributing at least to support the patient in the intervals between the hours of gymnastics. The error of the first supposition appears from the ever

confirmed experience that even a persevering employment of bandages is not able to prevent the rise of the most grievous scolioses, while through a really effective gymnastic treatment, a previously used bandage may be laid aside after some time, to the great relief of the patient, and nevertheless the deformity constantly be diminished or at least a deterioration certainly prevented. To dismiss a scoliotic patient with simply a bandage is no help but rather the contrary, for in that case the deformity will go on developing itself, as the muscles of the back and thorax will be still more enfeebled through want of exercise.

In another domain, too, the gymnastic method of treatment has won an importance that could hardly have been anticipated ten years ago. The fact is that the Zander gymnastics has obtained an extensive use in Germany when the question is to *remove the indirect consequences of injuries contracted by accidents occurring in the course of work*. By the Act for Insurance against Accidents, in force there since 1884, the workman injured is guaranteed certain damages of incapacity, the amount of which is determined according to the decrease of capacity for work, resulting from the injury sustained. In order to reduce these damages, efforts are made to increase, as far as possible, the capacity for work of the injured person by causing him to undergo *gymnastic after-treatment* in establishments specially erected for the purpose and furnished with Zander apparatus. Such treatment is practised also in many ordinary

Zander Institutes in that country, and very remarkable results are recorded everywhere.

The Zander medical gymnastics can most advantageously be combined with *mineral water cures and baths*; for where a dietetic mode of life is the rule, the special methods of treatment attain the best results. This has been recognized at several of the largest watering-places, and Zander Institutes have already been established at Baden-Baden, Wiesbaden, Aix-la-Chapelle, Wildbad, Ragaz, Nauheim, Karlsbad and Marienbad. At Baden-Baden the advantages of the Zander method are so highly appreciated that the Government of Baden has established also a second complete Zander Institute in that town. At Wiesbaden there exist three Institutes.

The list given below shows the places which are already provided with fully or partly equipped Zander Institutes:

Aix-la-Chapelle.	Bologna.
Amsterdam.	Bonn.
Arnhem.	Breslau.
Aue im Erzebirge.	Brunswick.
Augsburg.	Brussels.
Baden-Baden.	Bucharest.
Baltimore.	Budapest.
Barmen.	Buenos-Aires.
Batavia.	Chemnitz.
Berlin.	Christiania.
Bochum.	Cologne.

Copenhagen.	Maintz.
Danzig.	Mannheim.
Dessau.	Marienbad.
Dresden.	Moscow.
Duisburg on the Rhine.	Munich.
Eberswalde.	Nauheim.
Elberfeld.	Neubrandenburg.
Essen.	Neu-Rahnsdorf, near
Flensburg.	Berlin.
Frankfort on the Main.	New York.
Gothenburg.	Nieder-Schönhausen, near
Groningen.	Berlin.
Gütergotz, near Berlin.	Norrköping.
Haarlem.	Nymegen.
Halle.	Paris.
Hamburg.	Ragaz.
Hanover.	Rome.
Heidelberg.	St. Louis. Miss. U. S. A.
Helsingfors.	St. Petersburg.
Karlsbad.	Stockholm.
Karlsruhe.	Stuttgart.
Kiel.	Swinemünde.
Königsberg.	The Hague.
Königshütte.	Trieste.
Larvik (Norway).	Turin.
Lausanne.	Upsala.
Leeuwarden.	Utrecht.
Leipzig.	Vienna.
London.	Vöslau-Gainfarn.
Magdeburg.	Wiesbaden.

Wildbad.	Zabrze.
Wilhelmshöhe.	Åbo.
Würzburg.	Örebro.

Institutes are at present being established at:

Antwerp.	Paris.
Baden, near Vienna.	Prague.
Kissingen.	Rotterdam.
Leyden.	Zwolle.

Single apparatus for private use have been sent to:

Alexandria.	Milan.
Barcelona.	Nieder-Walluf o. the Rhine.
Barmen.	Nikolaieff.
Berchtesgaden.	Paris.
Düsseldorf.	Philadelphia.
Erfurt.	Ramlösa.
Graz.	Riga.
Greifswald.	Saarburg.
Lisbon.	Schloss Skrivan, Bohemia.
Meiningen.	Treves.

In order to prevent eventual imitators of the Zander apparatus from abusing the name of DR. ZANDER, his name is legally protected in most civilized countries.

The Zander system now comprises *74 different apparatus*, of which some can be combined.



The Medico-Mechanical Zander Institute
at the **Exhibition of Stockholm** contains the following
apparatus:

- A 2 Arm-raising, shoulder-raising.
- A 3 Arm-drawing downwards.
- A 4 Arm-stretching upwards.
- A 5 } Arm-adduction & Arm-abduction — (com-
- A 6 } bined).
- A 7 a Arm-circumduction.
- A 7 b Hand-circumduction.
- A 8 a Arm-rotation.
- B 3 Hip-knee-flexion.
- B 4 Hip-knee-extension.
- B 5 a } Leg-adduction & Leg-abduction (sitting)
- B 6 } — (combined).
- B 5 b Leg-adduction (half-reclining).
- B 7 Velocipede-motion.
- B 9 } Knee-flexion & Knee-extension — (com-
- B 10 } bined).
- B 11 Foot-flexion and extension.
- B 12 Foot-circumduction.
- C 1 } Trunk-flexion & Trunk-extension (sitting)
- C 2 } — (combined).
- C 5 Trunk-extension (standing).
- C 6 Trunk-sideways-flexion.
- C 8 Pelvis-rotation.
- D 2 Pelvis-circumduction (transversal sitting).
- E 4 Finger-flexion and extension (passive).
- E 5 Leg-circumduction in the hip-joint.

- E 6 Chest-dilatation.
 - E 8 Pelvis-elevation.
 - F 1 Vibration of different parts of the body.
 - F 2 Vibration of the whole body (saddle sitting).
 - G 1 Trunk- and arm-percussion.
 - H 1 Abdomen-kneading.
 - J 1 Arm-friction.
 - J 5 Back-friction.
 - K 3 Chest-rotation (lying).
 - Trunk-measuring apparatus.
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The »GÖRANSSONS MEKANISKA VERKSTAD» COMPANY LIMITED, the Manager of which E. FR. GÖRANSSON C. E. has since 1874 devoted himself to the development of the aforesaid invention of Dr. ZANDER in technical and industrial respect, gives all the advice and information necessary in that respect for establishing *Medico-Mechanical Zander Institutes*.



A 3.



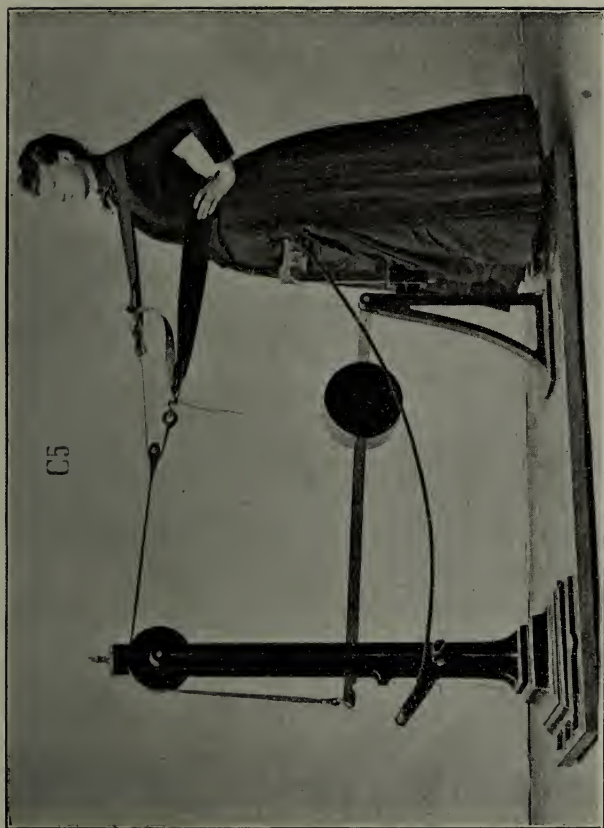
Arm-drawing downwards.

B 5 b.



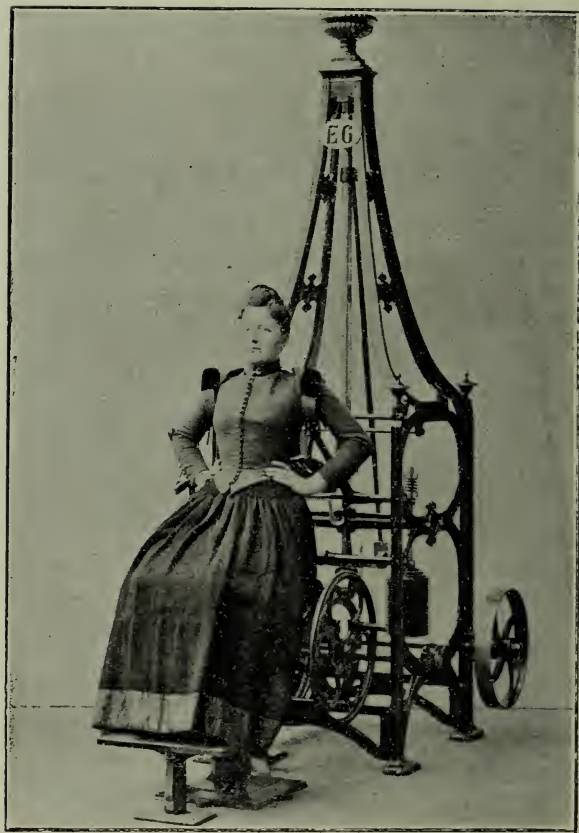
Leg-adduction (half-reclining).

C 5.



Trunk-extension (standing).

E 6.



Chest-dilatation.



Trunk-measuring apparatus.





